

AMENDMENTS TO THE CLAIMS:

- 1-36. (Canceled).
37. (Currently amended) A drug delivery matrix, coating on an implantable medical device, the coating comprising a copolymer of ethylene with carboxylic acid and a drug contained within or attached to the coating matrix, wherein the copolymer is a coating on an implantable substrate.
38. (Currently amended) The drug delivery matrix coating of claim 37, wherein the carboxylic acid co-monomer content is no less than 5% by weight.
39. (Currently amended) The drug delivery matrix coating of claim 38, wherein the carboxylic acid co-monomer content is no more than 50% by weight.
40. (Currently amended) The drug delivery matrix coating of claim 37, wherein the carboxylic acid co-monomer content is no more than 50% by weight.
41. (Currently amended) The drug delivery matrix coating of claim 37, wherein the co-polymer is ethylene acrylic acid.
42. (Currently amended) The drug delivery matrix coating of claim 37, wherein the carboxylic acid is selected from a group consisting of acrylic acid, methacrylic acid, maleic acid, itocanic acid, and esters thereof.
43. (Canceled).
44. (Previously presented) A method of coating an implantable medical device, comprising:

adding a copolymer of ethylene with carboxylic acid to a solvent system to form a composition;

applying the composition to an implantable medical device; and

allowing the solvent system to evaporate.

45. (Previously presented) The method of claim 44, wherein the carboxylic acid is selected from a group consisting of acrylic acid, methacrylic acid, maleic acid, itocanic acid, and esters thereof.
46. (Previously presented) The method of claim 44, wherein adding the copolymer to the solvent system further comprises neutralizing the copolymer in a volatile or a non-volatile base and dispersing the copolymer in water and/or a co-solvent.
47. (Previously presented) The method of claim 44, further comprising adding a therapeutic agent to the solvent system.
48. (Previously presented) The method of claim 44, wherein the solvent system comprises toluene.
49. (Previously presented) The method of claim 48, wherein the solvent system further comprises a chlorinated solvent and a lower alcohol.
50. (Previously presented) The method of claim 44, wherein the carboxylic acid co-monomer content is no less than 5% by weight.
51. (Previously presented) The method of claim 50, wherein the carboxylic acid co-monomer content is no more than 50% by weight.

52. (Previously presented) The method of claim 44, wherein the carboxylic acid co-monomer content is no more than 50% by weight.
53. (Previously presented) The method of claim 44, wherein the co-polymer is ethylene acrylic acid.
54. (Previously presented) The method of claim 44, wherein the device comprises a stent.
55. (Currently amended) The drug delivery ~~matrix~~ coating of claim 37, wherein the implantable substrate comprises at least a portion of a stent body.